

AMENDMENTS TO THE CLAIMS

1-199. (cancelled)

200. (Currently Amended) A modified biomaterial useful for the dismutation of superoxide comprising a biomaterial substantially compatible with a biological system and at least one non-proteinaceous catalyst for the dismutation of superoxide covalently bound to the surface of the biomaterial, wherein the non-proteinaceous catalyst for the dismutation of superoxide comprises a pentaazamacrocyclic

manganese(II)dichloro-[(4R, 9R, 14R, 19R)-3, 10, 13, 20, 26-pentaazatricyclo[20.3.1.0^{4,9}.0^{14,19}]hexacosa-1(26), 22(23), 24(25)-triene];
manganese(II)dichloro-[(4R, 9R, 14R, 19R)-3, 10, 13, 20, 26-pentaazatricyclo[20.3.1.0^{4,9}.0^{14,19}]-24-chloro-hexacosa-1(26), 22(23), 24(25)-triene];

or

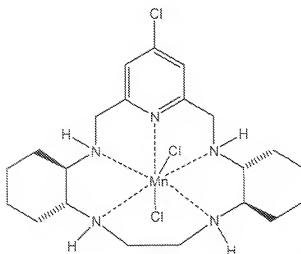
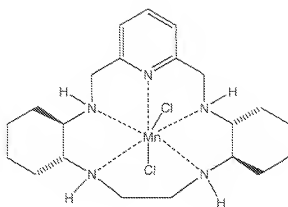
manganese(II)dichloro-[(4R, 9R, 14R, 19R)-3, 10, 13, 20, 26-pentaazatricyclo[20.3.1.0^{4,9}.0^{14,19}]-24-thioethylamine-hexacosa-1(26), 22(23), 24(25)-triene];

201. (Previously Presented) A modified biomaterial of claim 200, wherein the non-proteinaceous catalyst consists of manganese(II)dichloro-[(4R, 9R, 14R, 19R)-3, 10, 13, 20, 26-pentaazatricyclo[20.3.1.0^{4,9}.0^{14,19}]hexacosa-1(26), 22(23), 24(25)-triene].

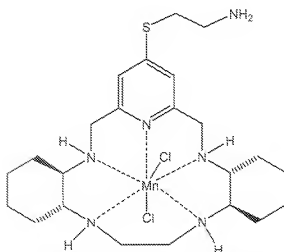
202. (Previously Presented) A modified biomaterial of claim 200, wherein the non-proteinaceous catalyst consists of manganese(II)dichloro-[(4R, 9R, 14R, 19R)-3, 10, 13, 20, 26-pentaazatricyclo[20.3.1.0^{4,9}.0^{14,19}]-24-chloro-hexacosa-1(26), 22(23), 24(25)-triene].

203. (Previously Presented) A modified biomaterial of claim 200, wherein the non-proteinaceous catalyst consists of manganese(II)dichloro-[(4R, 9R, 14R, 19R)-3, 10, 13, 20, 26-pentaazatricyclo[20.3.1.0^{4,9}.0^{14,19}]-24-thioethylamine-hexacosa-1(26), 22(23), 24(25)-triene].

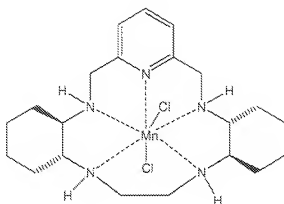
204. (Currently amended) A modified biomaterial of claim 3 useful for the dismutation of superoxide comprising a biomaterial substantially compatible with a biological system and at least one non-proteinaceous catalyst for the dismutation of superoxide covalently bound to the surface of the biomaterial, wherein the non-proteinaceous catalyst for the dismutation of superoxide comprises a compound of structure:



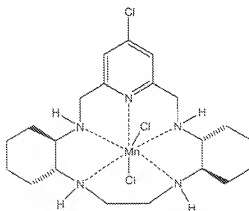
or



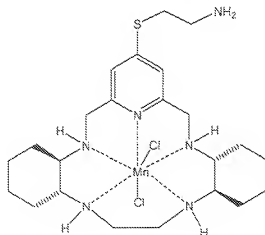
205. (Previously Presented) The modified biomaterial of claim 204, wherein the non-proteinaceous catalyst consists of a compound of structure:



206. (Previously presented) The modified biomaterial of claim 204, wherein the non-proteinaceous catalyst consists of a compound of structure:



207. (Previously presented) The modified biomaterial of claim 204, wherein the non-proteinaceous catalyst consists of a compound of structure:



228. (New) The modified biomaterial of claim 200, wherein the biomaterial substantially compatible with a biological system is selected from the group consisting of a metal, a ceramic, a polymer, and a composite thereof.

229. (New) The modified biomaterial of claim 228, wherein the biomaterial substantially compatible with a biological system is a metal selected from the group consisting of stainless steel, tantalum, titanium, nitinol, gold, platinum, inconel, iridium, silver, tungsten, nickel, chromium, vanadium, and alloys comprising any of the foregoing metals and alloys.

230. (New) The modified biomaterial of claim 228, wherein the biomaterial substantially compatible with a biological system is selected from the group consisting of a metal, a ceramic, a polymer, and a composite thereof.

231. (New) The modified biomaterial of claim 228, wherein the biomaterial substantially compatible with a biological system is a polymer selected from the group consisting of: polyurethane, polyurethane, polyalkylene glycols, polyethylene terephthalate, ultra high molecular weight polyethylene, polypropylene, polyesters, polyamides, polycarbonates, polyorthoesters, polyesteramides, polysiloxane, polyolefins, polytetrafluoroethylene, polysulfones, polyanhydrides, polyalkylene oxides, polyvinyl halides, polyvinylidene halides, acrylic, methacrylic, polyacrylonitrile, polyvinyl, polyphosphazene, polyethylene-co-acrylic acid, silicone, block copolymer of any of the foregoing polymers, random copolymers of any of the foregoing polymers, graft copolymers of any of the foregoing polymers, crosslinked polymers of any of the foregoing polymers, hydrogels, and mixtures of any of the foregoing polymers.

232. (New) The modified biomaterial of claim 204, wherein the biomaterial substantially compatible with a biological system is selected from the group consisting of a metal, a ceramic, a polymer, and a composite thereof.

233. (New) The modified biomaterial of claim 232, wherein the biomaterial substantially compatible with a biological system is a metal selected from the group consisting of stainless steel, tantalum, titanium, nitinol, gold, platinum, inconel, iridium, silver, tungsten, nickel, chromium, vanadium, and alloys comprising any of the foregoing metals and alloys.

234. (New) The modified biomaterial of claim 232, wherein the biomaterial substantially compatible with a biological system is selected from the group consisting of a metal, a ceramic, a polymer, and a composite thereof.

235. (New) The modified biomaterial of claim 232, wherein the biomaterial substantially compatible with a biological system is a polymer selected from the group consisting of: polyurethane, polyureaurethane, polyalkylene glycols, polyethylene terephthalate, ultra high molecular weight polyethylene, polypropylene, polyesters, polyamides, polycarbonates, polyorthoesters, polyesteramides, polysiloxane, polyolefins, polytetrafluoroethylene, polysulfones, polyanhydrides, polyalkylene oxides, polyvinyl halides, polyvinylidene halides, acrylic, methacrylic, polyacrylonitrile, polyvinyl, polyphosphazene, polyethylene-co-acrylic acid, silicone, block copolymer of any of the foregoing polymers, random copolymers of any of the foregoing polymers, graft copolymers of any of the foregoing polymers, crosslinked polymers of any of the foregoing polymers, hydrogels, and mixtures of any of the foregoing polymers.